

**Title : Limb Salvage Surgery in Bone Tumors: A Single Institutional StudyK.M.I.O Experience**

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**Asbtract :**

**Introduction:** Limb salvage surgery is the procedure which helps to remove tumours of Extremities and reconstruction is done with acceptable oncologic, functional and cosmetic results. The first priority is given for oncologic clearance followed by functional result. There is a change in trend all over the world from Amputations to Limb Salvage Surgery for appropriate candidates because of effective chemotherapy regimens, newer imaging techniques, advanced radiotherapy precision delivery, better reconstructive options and advances in Bio-Engineering.

**Materials and Methodology:** A retrospective analysis of 50 patients treated by Limb Salvage procedures in Bone tumours during a 5 year period from (2007-2011) in our Regional cancer centre which is also a tertiary care referral center was done. Before consideration of limb preservation procedures, all the patients were appropriately staged and assessed at a multidisciplinary tumour board meet. All patients with a proven histopathology of Osteosarcoma and Ewing's sarcoma were given neoadjuvant chemotherapy. At our centre, we use 3 cycles of IAP (Ifosfamide

1.5 gm/m<sup>2</sup> Day 1-3, Adriamycin 25 mg/m<sup>2</sup> Day 1-3, Cisplatin 90 mg/m<sup>2</sup>

) as neoadjuvant for Osteosarcomas and 4 cycles of IE/VAC (alternating, Ifosfamide 2 gm/m<sup>2</sup> Day 1-3, Etoposide 100 mg/m<sup>2</sup> Day 1-3, Vincristine 1.4 mg/m<sup>2</sup>, Adriamycin 60 mg/m<sup>2</sup>, Cyclophosphamide 600 mg/m<sup>2</sup>) for Ewing's sarcoma. Response to chemotherapy was assessed by Imaging modalities and compared with previous imaging findings. The surgery was performed according to the general principles of limb salvage surgery. Results: Most of the patients underwent surgery under general anaesthesia and few under spinal/epidural anaesthesia. General principles of limb salvage surgery was followed strictly. The median resection length as 15 cm (range 6-25). The largest resections were performed in distal femur 16 cm (range 12-25), followed by proximal femur 15 cm (range 6-25), proximal Tibia 12 cm (range 7-15). Extra reconstructive interventions were needed for soft tissue coverage around knee joint in Osteosarcoma patients who have received neoadjuvant chemotherapy. Complications specific to endoprosthetic reconstruction may be related to mechanical or biological factors. Fatigue failure, aseptic loosening, Local Recurrence , peri-prosthetic fracture

**Conclusion:** The surgical management of patients with bone tumors of bone is challenging, particularly malignant tumors. Limb sparing surgery is a safe procedure, oncologically sound, provides good functional and cosmetic results. Appropriate patient selection for limb sparing procedure is essential to ensure good and consistent result.